



REPORT

FOR MILWAUKEE'S MEDICAL COMMUNITY

City of Milwaukee Health Department

New Intervention Model Shows Success

Last year, the MHD CLPPP developed a new approach, called the Team Intervention Model, to intervene with children and families that have chronically elevated blood lead levels or possess characteristics that may lead to this. Several criteria are used to evaluate the outcomes of an intensive effort put forth by Health Department Public Health Nurses and Risk Assessors. These criteria include: changes in the children's blood lead levels, changes in lead safe housing, stabilization of families into consistent housing, and the family response to the interventions. Evaluation results show areas of great success, as well as additional needs to assure positive outcomes for lead poisoned children.

The first success is the decrease in children's blood lead levels. Of the 118 children, 105 children have had blood lead retests and 98 have shown a decrease in their lead levels (range of the means indicated a decline 6.3 mcg/dL to 12.6 mcg/dL, depending on the time from enrollment in Team Intervention). Two children retested had no change and five have shown an increase of 1 to 5 mcg/dL. Of the 13 not having had

a retest, 4 were not yet due for retest. The decrease in the range of the means is encouraging, as many of these children have been followed for less than a year.

The second success is that these children are living in and visiting homes that are lead safe. Risk assessors completed assessments on 196 properties for these families. Of these, 44 properties were found to be lead safe, 71 properties have been made completely lead safe, and the remainder of the properties are in the process of having lead abatement completed. Funding, through HUD Primary Prevention Grants, was provided to qualifying property owners to make the windows in their units lead safe.

A third success for this model has been the collaboration with several housing agencies to provide lead safe, stable and (in some cases) subsidized housing for these families. Five families have received rental vouchers through the Housing Authority Section 8 Housing Choice Voucher Program and more are in process. These scattered housing sites are in turn made lead safe through funding received from the MHD CLPPP.

Other housing collaborations include a referral agreement with Community Advocates Transitional Housing Program and a continued collaboration with the Red Cross Emergency Assistance Grant Program. These have allowed families to stabilize their housing location and provided support for financial stability as they receive the subsidy. In addition, several property owners are aware of the added interventions by the MHD CLPPP and view this as favorable for their tenants, especially related to the decreased rate of turnover.

Another success has been the continued and closer case management by the Public Health

continued next page



Published by the City of Milwaukee Health Department, the Milwaukee Lead Report features in-depth information, data, and reports from the Childhood Lead Poisoning Prevention Program of interest to the medical community.

Virginia Zerpa, MPH
Editor

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Amy Murphy, MPH
Lead Program Manager

•
Seth L. Foldy, MD
Commissioner of Health

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Intervention Model, continued

Nurse along with the routine visits from the Risk Assessor. These team members regularly evaluate the progress of the case management plan developed with the family. Cases have been closed for 8 families who have met the objectives of the case management plans. Anecdotal information received from families as the cases are closed includes: parent liked the team approach, mother felt the lead program was truly concerned regarding the health and well being of her children and appreciated the lead program efforts to provide information regarding lead poisoning, parent was happy to be living in lead safe housing, mother felt that she had enough information

that she could share knowledge gained about lead poisoning and lead poisoning prevention.

Despite many successes, there are several challenges identified with this approach. Locating and maintaining contact with these high-risk families can always be difficult. Families move frequently and may not always understand the severity of the health needs for them and their children. Another challenge has been the minimal or lack of involvement by the children's medical providers. The team members, including the families, identify the medical provider as a member of this team, yet there is very little or no response

from the provider. Letters with faxable accompanying reply requests have been sent to 87 local medical providers; replies or phone contacts have only been received back from 25. **The participation of the medical provider is critical in the overall treatment of children with chronic or potential chronic Lead Poisoning.**

If you would like to know more about the Team Intervention Model or to find out if your patient is receiving this case management, please contact, Mary Jo Gerlach, Public Health Nurse Coordinator at (414) 286-5987.

Lead Intervention Creates a Ripple Effect

Most of the families being followed in the Team Intervention Model (*see cover article*) have multiple psychosocial issues in addition to their children being lead poisoned. Yet, despite these many issues, several of these families are successful in meeting their goals of living in lead safe housing, lowering their children's lead levels, and achieving relative financial stability.

Once such family who has dealt with numerous external issues has achieved several of their goals. The family consists of a mother and her four children (ages 16 years, 7 years, 6 years and 3 ? years). The three younger children have histories of high lead levels with the 3-year-old requiring two chelations in one year. Over the last three years this family has survived multiple moves from one

substandard home to the next, the mother's AODA problems, the father/husband's abuse of the mother and children, children removed and returned to the care of the mother, and all four children having developmental delays compounded by behavior problems.

After participating actively as a team member with the Public Health Nurse (PHN) and Risk Assessor (RA), the family has made some significant strides. The mother has graduated successfully from an AODA Program, received custody of her children, removed herself from the abusive husband/father, and is receiving W2 subsidy while she works out school and behavior problems for her children. In addition, the mother worked with the PHN and RA to complete the

Housing Authority Rental Voucher Program application and the family has been living in the same lead safe house for almost 1 year. Another very important part of this family's success is the reliability, support, and collaboration with the children's medical provider. The close monitoring and follow-up by this medical provider has played an integral part in bringing the children's lead levels down to an almost safe range.

The supportive structure, the collaborative efforts of all those involved with the family and working with the strengths of this mother has resulted in very important accomplishments for her and her family. Together we will strive to help this family continue to succeed.

2003 Chelation Facts

Fifteen City of Milwaukee children were reported to the Milwaukee Health Department as having undergone chelation for lead poisoning in calendar year 2003, seven children less than the previous year. This is the fourth consecutive annual decline for number of children chelated. Only one of these children was chelated more than once during the year, down from nine last year.

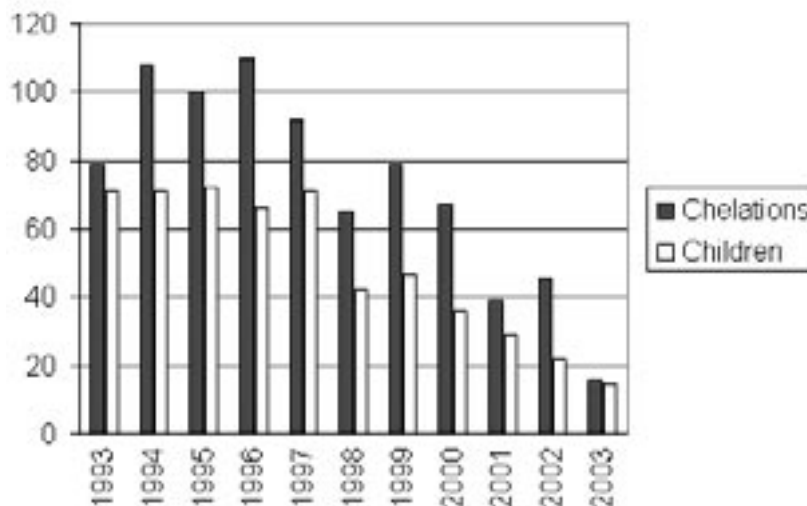
The total number of chelation events reported for 2003 was sixteen. This total represents a drop from 46 events in 2002 – a 65% decrease. The age span for these children ranged from 14 months to 95 months, with one chelation for a child over 72 months of age. We continue to see an overall decrease in the number of chelations at later ages.

Children tested for lead poisoning at a younger age (1-2 years of age) and who were chelated have a lower rate of rebound or need for a second chelation than children who were tested for lead at an older age (3-4 years of age).

Children tested at younger ages with elevated lead levels have had less time to accumulate lead in their soft tissues and bones and therefore re-chelation is less likely to be necessary.

Chelation medication is only approved for children whose lead level is confirmed with a venous of 45 µg/dL and higher. Research has indicated that children chelated at lower levels have the same long-term health outcome than those who were not given chelation at comparable levels. For more information on study: Rogan WH, Dietrich KN, Ware JH, et al. Succimer chelation and neuropsychological development in lead-exposed children. New England Journal of Medicine, 2001; 344:1421-6.

Reported Numbers of Children Chelated in the City of Milwaukee



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	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Chelations	79	108	100	110	92	65	79	67	39	46	16
Children	71	71	72	66	71	42	47	36	29	22	15

Number of Chelations per Child in 2003: One Time: 14 Two Times: 1 Total: 15

Erythrocyte Protoporphyrin Proves to Be Useful

Medical providers in the Milwaukee area have increased the use of the blood diagnostic test, Erythrocyte Protoporphyrin, in lead poisoned children. In fact, more than half of lead poisoned children are receiving this blood test routinely along with their follow-up lead tests. This test, measured as Free Erythrocyte Protoporphyrin (EP or FEP) or Zinc Protoporphyrin (ZPP), is extremely useful both to the medical provider and the City of Milwaukee Health Department Childhood Lead Poisoning Prevention Program (MHD CLPPP). Monitoring the EP/ZPP with every blood lead test helps to determine; 1) if a child has been exposed to sources of lead over an extended period of time, 2) if a child is exposed to any new sources of lead from their environment, or 3) if a child's body burden of lead from bone stores is being reduced. If you would like to know more about the use of EP/ZPP, contact the MHD CLPPP at 225-LEAD.

LEAD POISONING PREVENTION RESOURCES

City of Milwaukee Health Department

General Information: *Lead Poisoning Prevention Hotline* (414) 225-LEAD
Public Health Nursing: *Reporting, Health Effects, Care Coordination* (414) 286-5987
Environmental Health: *Home Inspections, Abatement Issues, HEPA Vacuums*. (414) 286-0387
Health Education: *Printed Materials, Community Education and Primary Prevention* (414) 286-8492
Laboratories: *Lead Laboratory Analysis (Blood, Paint Chip, Dust, Water)*. (414) 286-3526

State Department of Health and Family Services (DHFS)

Childhood Lead Poisoning Prevention Program. (608) 266-5817
Adult Lead Exposure and Reporting (608) 266-7298

National Resources

U.S. Environmental Protection Agency (EPA) 1-800-532-3394
General Information on Lead and EPA Guidelines
Centers for Disease Control and Prevention (CDC). (404) 639-3311
Standards for Health Risk, Screening Recommendations, Lead Poisoning Prevention Program Information
Alliance To End Childhood Lead Poisoning. (202) 543-1147
National Center for Lead Safe Housing. (410) 992-0712